Joshua Lederberg

The Moral Issue of Science Is Lack of Science of Peace

Dr. Lederberg is back in Stockholm, where in 1958 he received the Nobel Prize at the age of 33 for his work in molecular genetics.

STOCKHOLM—The advance of science, which is to say the increase in collective knowledge of the natural world, is perhaps the only measure of human progress during the last 3000 years about which no argument is possible. But even here we must be careful not to confuse the claim; although most readers of this newspaper live in unprecedented comfort and affluence, these by-products of science are very unequally sprayed over the world's population.

Taking all into account, some people are even abused more than helped. It may also be part of human nature that the inner and outer strife generated by that inequality will generally outweigh the material contribution of technology to the satisfaction of life enjoyed by the individual.

Science today is at a point of crisis. Given the equation, "Knowledge equals power," it is a plausible scapegoat for failures of the social system.

Accusations that science is wrecking the environment, and the privacy and individuality of human life, may stem from a callow confusion of the pursuit of knowledge with its unthinking exploitation. Nevertheless, these concerns are being internalized to make a moral crisis for more and more young scientists, and at least one who must reluctantly admit to middle age.

ALFRED NOBEL endowed the famous prizes that bear his name as a kind of penance for the invention of dynamite. The Nobel Prize for Peace most directly fulfills moral aim—and has had very hard going in a turbulent century. The prizes for science have assimilated the scientific ethic that the objective pursuit of knowledge may show the nations how to quiet their petty conflicts in favor of rational methods of solving problems by analysis and negotiation.

These awards have, then, focused on the recognition of creativity in pure science rather than immediate human benefits (which would also be hard to measure with assurance as to the long-term impact. The award for DDT, an exception to pure science, dramatizes this problem.)

The science awards have, more than any other institution, publicized the fact that knowledge is universal, that it knows no national boundaries. On the other hand, the superpowers have concluded that force is the rule of reason in world politics. The mobilization of science behind that principle overreaches Nobel's worst fears. The central moral issue of science is that we do not have a science of peace and hardly know where to begin in building one.

In recent years, the Nobel foundation has looked for ways to revitialize Alfred Noble's testbent. This week, it is conducting a conference here on "the place of values in a world of facts" with a roster of world luminaries including poets like Auden and Asturias, economists like Gunnar Myrdal and social and natural scientists like Doxiadis, Konrad Lorenz, Margaret Mead, Linus Pauling and Glenn Seaborg.

No revolutionary discovery will emerge from this kind of discussion. It would be enough to find a tangible expression of the myth of Pandora's box: that Hope was there, too. The conference may also show some concrete ways in which the perspectives of the individual scientist may be broadened, that he might find some avenue to relieve his own intense frustration over the abuse of the knowledge he has labored to deepen.

FROM THE perspective of my own participation in science, I certainly would not tax my colleagues with indifference to human problems. However, I believe that many of them are easily discouraged by larger problems and neglect to search for the ways in which their own expertise might be a unique key to solving a small problem, or perhaps more often to discovering an insidious new one.

This would also require a degree of self-education about issues of human importance which is not encouraged by the existing system of academic recognition (right up, one might add, to the Nobel Prize, too). There is no substitute for the scientist as vigilant critic; we can hardly expect the lay politican to have much insight into the metabolism of polychlorinated phenyl compounds.